

Remarks

Applicants note that all pending claims stand rejected. New claims 15 – 19 have been added. Claims 1 – 3 and 5 – 19 remain for consideration.

Applicants acknowledge the continued examination under 37 C.F.R. § 1.114.

- Examiner rejected claims 1 – 3 and 5 – 14 under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement and failing to specifically cite sections of the original specification supporting the claim limitation “and without application of a solution heat treatment”.

In response, Examiner’s attention is directed, for example, to paragraphs [0009], [0014] and [0018, last sentence] for support for the above limitation. In other words, the application unequivocally notes that one goal is to provide an article/alloy that has acceptable creep properties even in the absence of being solution heat treated.

- Claims 1 – 3 and 5 – 14 were rejected under 35 U.S.C. § 103 as allegedly unpatentable over Esser.

Applicants submit that currently amended claims 1 and 12 are patentable over WO99/67435 to Esser.

The disclosure in Esser (including some overlap in composition and a difference in Zr content) has been discussed at in previous Office Actions and Amendments – including the requirement to subject parts to a solution heat treatment to get good properties, including good creep properties... as has been long known in the art. Esser teaches that the parts are heat treated – at a temperature of about 2300 F (page 8, line 5).

Examiner’s assertion at the bottom of page 10 of the action [“Esser’s product, prior to the heat treatment taught by Esser is in the non-heat treated state”] is misplaced. Esser specifically teaches, suggests and motivates one skilled in the art to solution heat treat the parts to provide good properties so that they can be used.

What Esser does not teach, suggest or motivate is that it is possible to provide an alloy, or part made from an alloy of the composition in claims 1 and 12, and have good properties – including creep properties – without subjecting the alloy or part to a solution heat treatment step. As previously noted, a solution heat treatment of Esser – at 2300 F – applied to parts of the present application, would result in parts having unacceptable creep and other properties; in other words, it would ruin the parts. Current claims 1 and 12 reflect that the present invention articles have good properties – including good creep properties – in the absence of a solution heat treatment.

- Claims 1 – 3 and 5 – 14 were rejected under 35 U.S.C. § 103 as allegedly unpatentable over Mitsuhashi.

Applicants also submit currently amended claims 1 and 12 are patentable over EP 0 855 449 to Mitsuhashi.

Mitsuhashi discloses an alloy allegedly having better intergranular corrosion at high temperatures, and having a range that overlaps with portions of the composition of the present application – but less overlap than the composition of Esser. Following Mitsuhashi, the castings are HIPd at ~ 2150 – 2300 and under pressure for 1 – 5 hours to close porosity. Like other known alloys, Mitsuhashi then solution heat treats the alloy/parts at a temperature of 2200 – 2300 F for 2 – 5 hours.

Examiner's assertion at the bottom of page 10 of the action ["Mitsuhashi's product, prior to the heat treatment taught by Mitsuhashi is in the non-heat treated state"] is misplaced. Mitsuhashi specifically teaches, suggests and motivates one skilled in the art to solution heat treat the parts to provide good properties so that they can be used.

In contrast, the present application teaches that by more carefully controlling the composition of the alloy, it is possible that parts do not need a solution heat treatment in order to have acceptable properties – including creep properties – to be useful. Using the heat

treatment (HIP, solution heat treat) would in fact result in parts having unacceptable creep and other properties; in other words, it would ruin the parts. More specifically, independent claims 1 and 12 of the present application reflect that the present invention alloys/articles have good properties in the absence of a relatively high temperature [solution] heat treatment.

- Examiner should not have ignored limitations added in Applicant's previous response.

In the action, Examiner essentially ignores the claim language added to independent claims 1 and 12, citing the Decision at page 20 (last paragraph — "heat treatments. . . are not relevant to the present claims"). While that citation may have been appropriate based on the language in the claims at that time, the current claims specifically recite a limitation related to heat treatment.


In addition, Applicants have added new method claims 15 – 19 specifically directed to a method of producing a directionally solidified article, which has a composition and good creep properties in the absence of a solution heat treatment – in contrast to the articles and processes taught in Esser and Mitsuhashi.

Applicants petition for a three month extension of time for submitting this Amendment. Please charge our Deposit Account No. 21-0279 in the amount of \$1,110.00 (Docket No.: PA-085.10559-US) for the petition fee and any other fees due.

For at least the foregoing reasons, Applicants submit that the independent claims 1 and 12, and new independent claim 15, and their respective dependent claims are allowable over the prior art of record. The Examiner is invited to contact the undersigned if there are any questions.

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Respectfully submitted,



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